MASSACHUSETTS
HEALTH POLICY COMMISSION

Meeting of the Market Oversight and Transparency Committee

June 13, 2018

MASSACHUSETTS
HEALTH POLICY COMMISSION

AGENDA

- Call to Order
- Approval of Minutes
- HPC DataPoints Series
- Data Presentation
- Low Value Care
- Guest Presentation
- Schedule of Next Meeting (October 3, 2018)

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VOTE: Approving Minutes

MOTION: That the Committee hereby approves the minutes of the MOAT Committee meeting held on February 14, 2018, as presented.

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  - Recap of HPC DataPoints, Issue 7: Variation on Imaging Spending
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Spending on Medical Imaging: Background

Medical imaging is a critical aspect of patient care for screening, diagnosis, and monitoring.

But imaging is also an increasing area of attention for controlling health care spending:

- Experts find that imaging is **prone to overuse**; spending on unnecessary tests can lead to further **excess costs** due to false positives or follow-up on benign issues (Rao and Levin 2012).
- Imaging use (and prices) in the U.S. **far exceeds** that in most other OECD countries (Papanicolas et al. 2018).

Imaging spending is driven by:

- Volume of services;
- Intensity of service mix (e.g., high-cost vs. low-cost services);
- Regional prices and wages; and,
- Setting of care (hospital outpatient department vs. office settings or free-standing imaging centers)

Research design

The HPC conducted an analysis of imaging procedures in fee-for-service (FFS) Medicare to compare spending and utilization between MA and the rest of the U.S. in 2015.

We identify:

- The top 20 imaging procedures in either U.S. or Massachusetts;
- Variation in volume, prices, and setting of care;
- Annual per-beneficiary spending

Data sources:

- *Physician and Other Supplier Public Use File* (CMS, 2015): physician services database of fee-for-service Medicare beneficiaries
- *Hospital Outpatient Prospective Payment System* (CMS, 2015)
- *Berenson-Eggers Type of Service* Codes (CMS, 2016)

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Top Twenty Procedures in MA or US by Total Spending per Beneficiary

US Rank	MA Rank	Procedure code	Procedure	MA Average price
1	1	93306	Ultrasound of the heart	$458.70
2	2	93000	Electrocardiogram (EKG)	$72.51
3	3	78452	Nuclear study of the heart	$1,052.79
4	7	71010	X-ray of chest, 1 view	$79.41
5	6	70450	CT scan of the head	$183.08
6	5	78815	Nuclear study of the head, with CT	$1,570.83
7	4	71020	X-ray of chest, 2 view	$74.57
8	14	93880	Ultrasound of the head and neck	$238.76
9	9	70553	MRI brain scan, with contrast	$601.16
10	8	71260	CT scan of the chest, with contrast	$326.01
11	12	72148	MRI scan of lower spine	$313.06
12	21	93970	Ultrasound of both arms or legs	$249.70
13	16	71275	CT scan of blood vessels in chest	$424.77
14	13	70551	MRI brain scan	$367.23
15	10	G0121	Colonoscopy	$1,011.95
16	11	71250	CT scan of chest	$190.40
17	15	75978	Radiological supervision of vein	$2,370.79
18	23	95811	Sleep monitoring	$926.78
19	18	93971	Ultrasound of the arm or leg	$172.17
20	19	75710	Supervision of imaging of arm or leg artery	$2,835.61
29	20	95951	Electroencephalograph (EEG)	$1,385.70
39	17	74183	MRI scan of abdomen	$643.70

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Source: HPC Analysis of Center for Medicare and Medicaid Services “Medicare Physician and Other Supplier Public Use File, 2015”

Key Findings

- Massachusetts was the **4th highest** spending state for imaging services for Medicare ($892 in annual costs,14% higher than the U.S. average)
- Utilization of imaging services in Massachusetts was **high compared to other states**, with Massachusetts ranking 12th highest, which is partially attributable to the state's high-use of EKGs
- Medicare prices for imaging services ranged from **3% to 20% higher** in Massachusetts than the U.S. average (e.g., ultrasound of the heart)
- Price per procedure varied significantly based on site of service (facility vs. non-facility; e.g. MRI).
    - Massachusetts had **relatively high facility** use for imaging procedures, ranking 18th among states, resulting in higher spending.

HPC

Source: HPC Analysis of Center for Medicare and Medicaid Services "Medicare Physician and Other Supplier Public Use File, 2015"

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  - Fully-insured vs. Self-insured in the APCD and impact of Gobeille decision
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Background and Impact Analysis

- In 2016 the US Supreme Court ruled that states could not compel self-insured firms* to provide claims data for APCDs (Gobeille v. Liberty Mutual).
- Roughly half of the Massachusetts commercially-insured market is self-insured (particularly larger firms), meaning that a significant proportion of claims data that had been reported prior to 2016 could be lost in subsequent years.
- We explored the implications of this loss of data by comparing overall spending and demographic data, and spending by provider organization, for fully and self-insured members insured by BCBSMA, HPHC and Tufts in 2015.

* Self-insured firms are those that pay their enrolled employees' health care costs directly (typically using an insurer as a 'third party administrator') rather than purchasing health insurance on their employees' behalf for a fixed premium.

How Much Data Might be Missing?

- Some payers did continue to collect data from some self-insured firms for 2016 APCD release (6.0), and all GIC claims were included, but the majority of self-insured claims appear to be absent.

  The percent of self-insured claims that will be present in the **2016** APCD, by payer, based on preliminary analysis of claim lines (CHIA):

  - Anthem: 45%
  - BCBSMA: 0%
  - HPHC: 75%
  - Tufts: 70%
  - Aetna: 4%
  - CIGNA: 14%
  - Fallon: 100%
  - HNE: 100%
  - United: 1%
  - GIC (all payers): 100%

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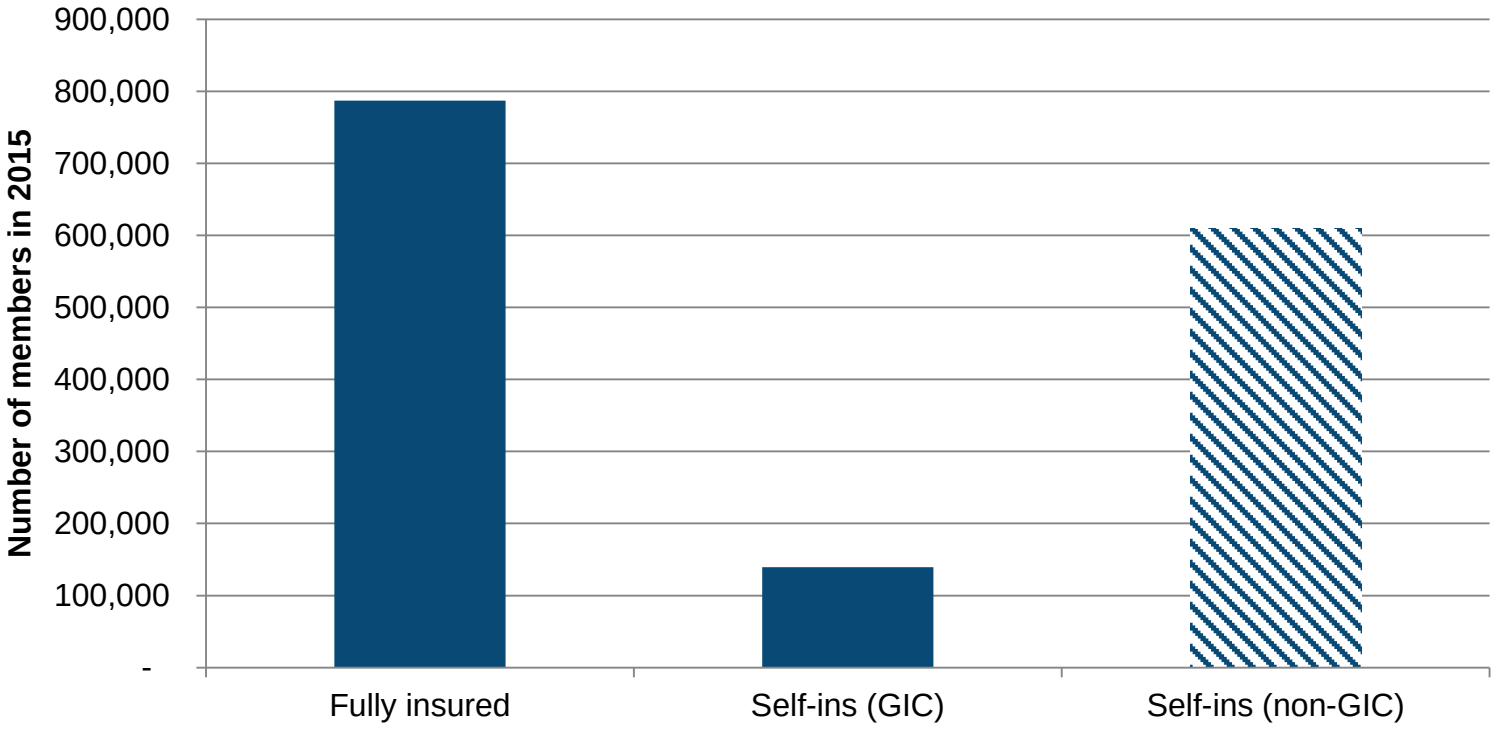
Underlined payers are those whose claims have been included in RCT's APCD analyses to date

Members in HPC's APCD analyses Affected by Missing Data

- Fully insured: 51% (retained)
- GIC self-insured: 9% (retained)
- Non-GIC self-insured: 40% (majority absent)



Includes only members of HPHC, Tufts and BCBS. Data adjusted to reflect full member-years

Demographic Data by Patient Insurance Type (2015)

	# Adults	Avg risk score	Avg # of Chronic Cond'ns	% Male	% HMO or POS	% at least 50 Yrs of Age	Unadjusted spending	Risk-adjusted spending
Fully insured	787,191	0.93	0.44	48.4%	82.6%	38.1%	$ 6,130	**$ 6,577**
Self insured	748,718	1.07	0.52	45.5%	52.8%	41.6%	$ 7,003	**$ 6,536**
- GIC	*139,502*	*1.11*	*0.55*	*46.3%*	*16.2%*	*46.0%*	*$ 7,233*	*$ 6,496*
- non-GIC	*609,216*	*1.06*	*0.51*	*45.3%*	*61.2%*	*40.6%*	*$ 6,951*	*$ 6,546*
All	1,535,909	1.00	0.48	47.0%	68.1%	39.8%	$ 6,562	$ 6,562

- *Self-insured are older, less healthy, more female, more PPO*
- *Risk-adjusted spending is nearly identical*

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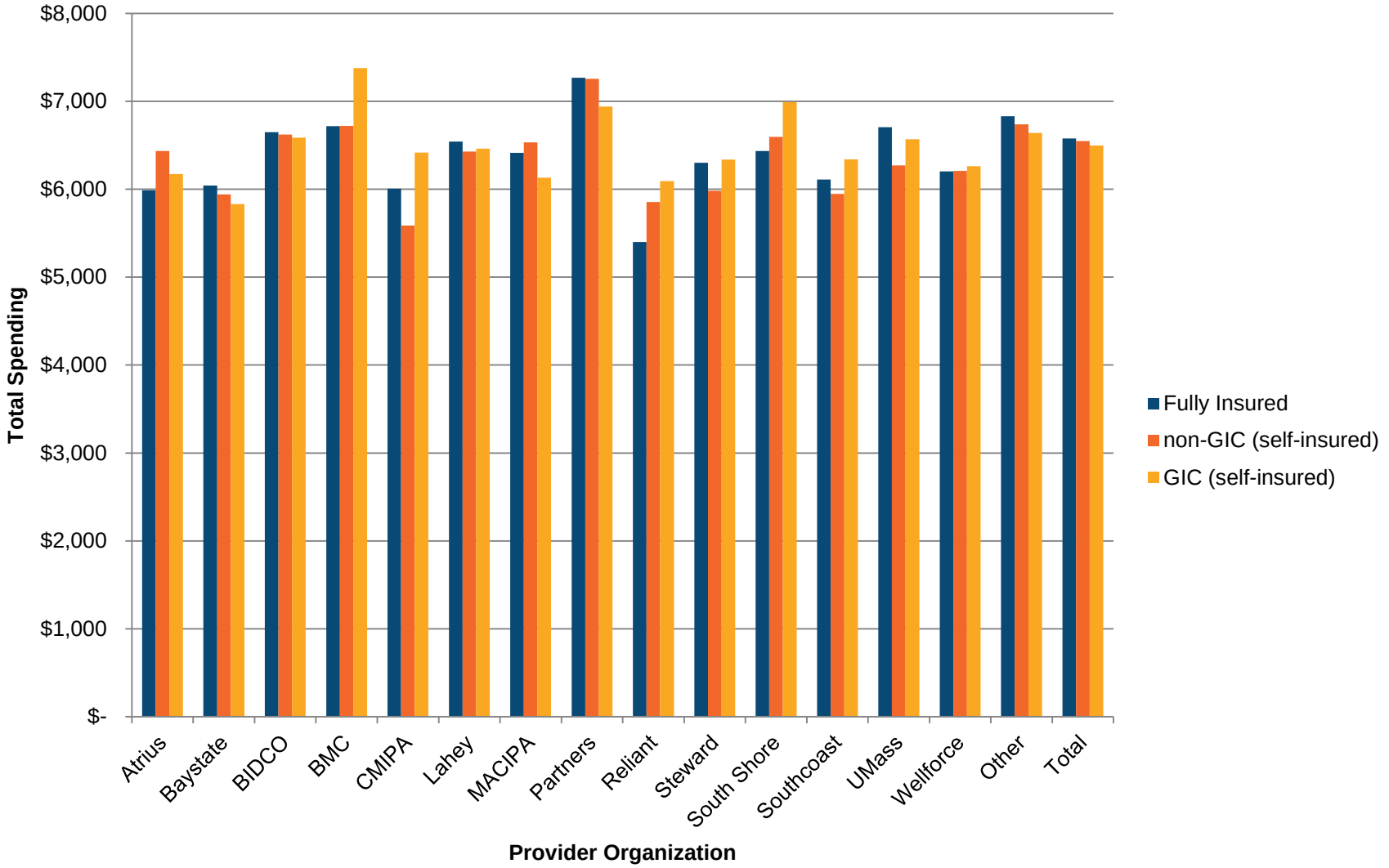
Includes only members of HPHC, Tufts and BCBS. Data adjusted to reflect full member-years

Spending by provider organization (for attributed patients) is similar for each insurance group

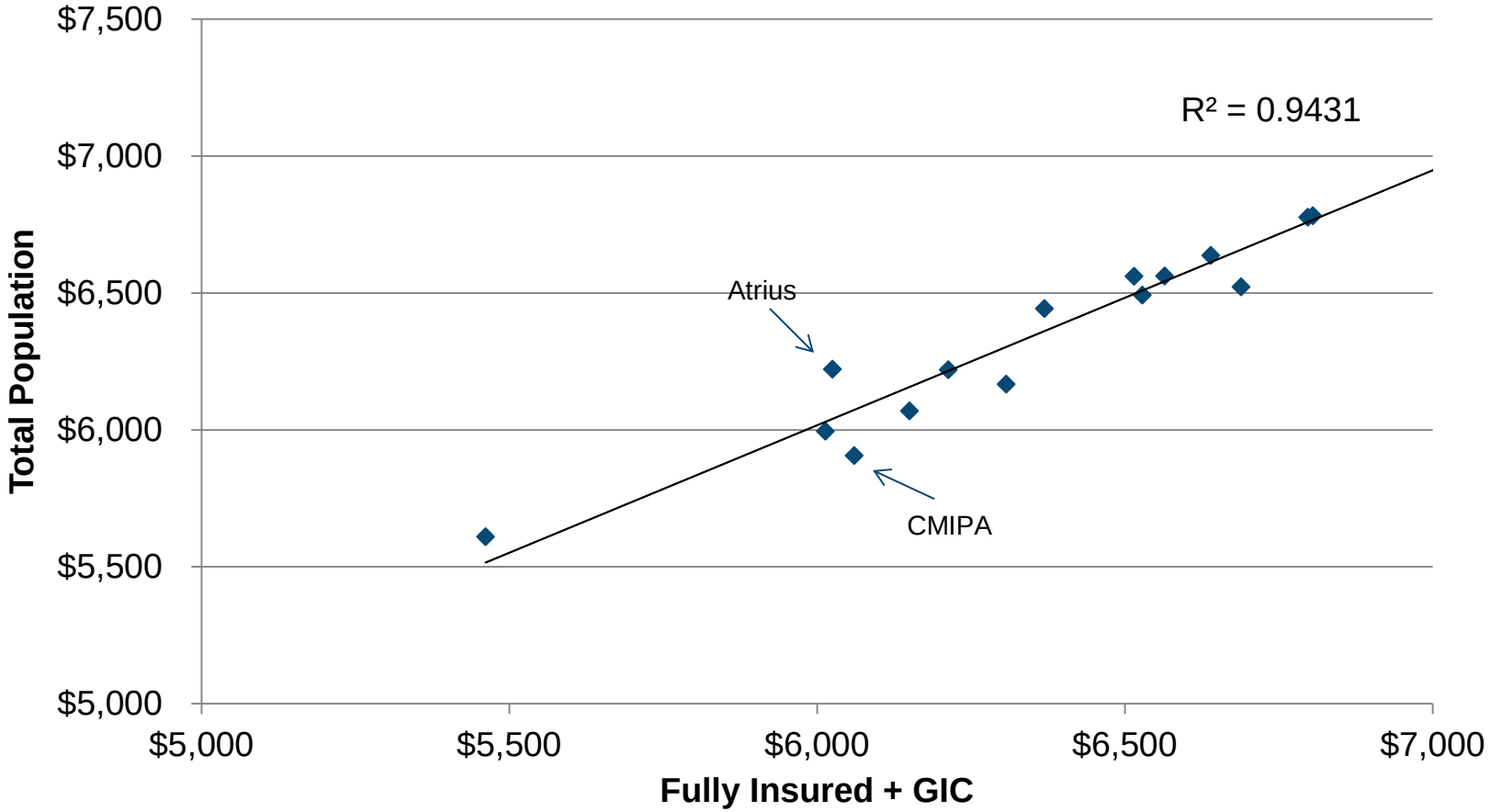


Adding the fully-insured to the GIC improves correlation with total spending

- Correlation between spending for:
  - Fully-insured and self-insured: .853
  - Fully-insured and total population: .967
  - (Fully-insured + GIC) and total population: .971

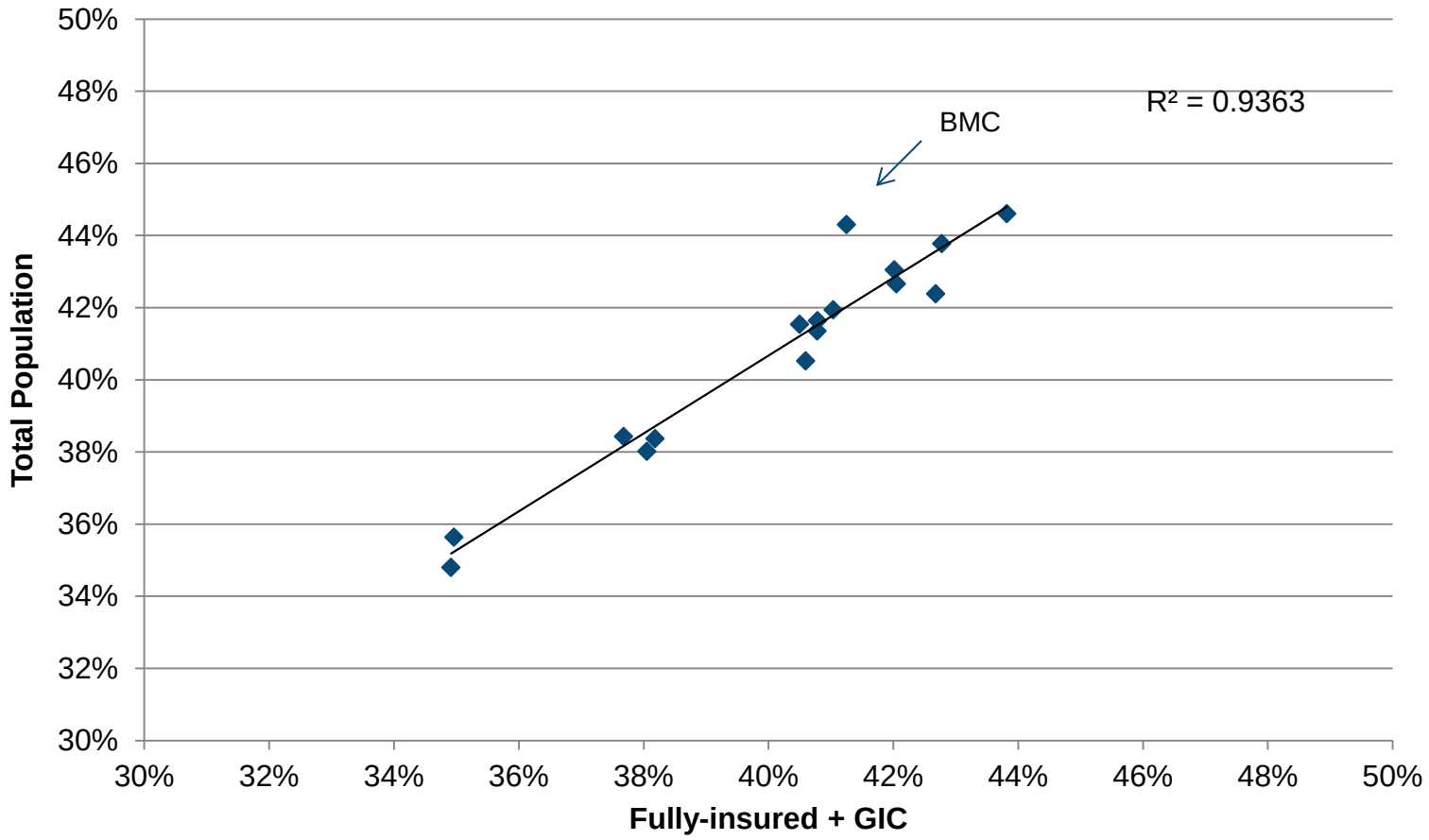
Assess using Fully-insured + GIC ($6,565 PMPY) as proxy for total population ($6,562 PMPY)

Fully-insured + GIC spending is within a few % of total spending for all provider organizations.



- *Largest changes in moving from full population to fully-insured + GIC:*
  - *Atrius: -3.2%*
  - *CMIPA: +2.6%*

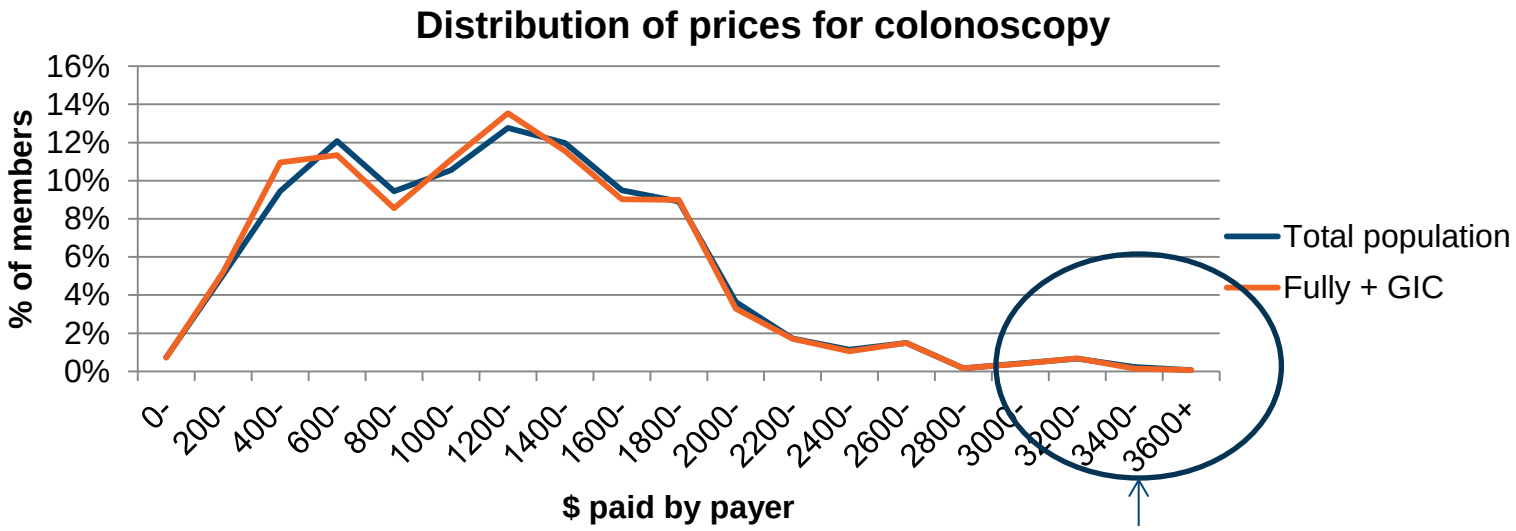
Hospital spending (inpatient + outpatient) as a percentage of total spending is also very similar both population groups

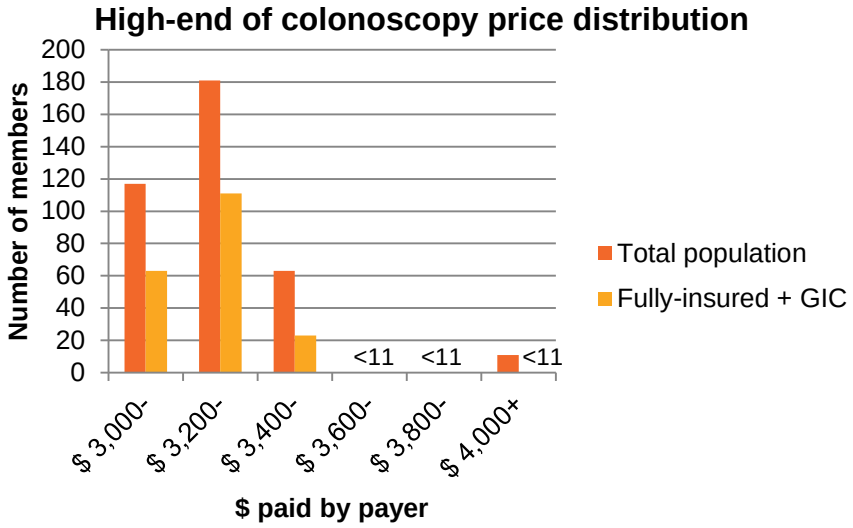


Only BMC changes significantly (3 percentage points)

- *Their self-insured members have high a hospital share of all spending*

Aggregate price analyses should be similar, though some detail may be lost





Outpatient colonoscopies (procedure code=="45378") with non-zero spending (12 colonoscopies had $0 in spending). Ns are at the "encounter" level, including any professional or facility claims for the same patient on the same day, with the 45378 colonoscopy procedure code. Encounters are bucketed by total spending (facility + professional) for that colonoscopy encounter, i.e. 0 to <200, 200 to <400, etc. Data from 2015 APCD analyzed by HPC

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Background on Low Value Care

- The set of services examined here are widely recognized by clinicians and researchers as being non-evidence based and typically unnecessary
- Many come from Choosing Wisely, an initiative of the ABIM foundation, which convened specialist organizations in 2012 to select procedures in their own fields that were of little or no value to patients
- There are more than 550 Choosing Wisely services, tests, and procedures; only some can be measured in claims data
- We examined 19 measures in four categories using a commercial MA APCD file that contained the top 3 payers:
  - Imaging: 9 measures
  - Pre-operative care: 2 measures
  - Procedures: 3 measures
  - Screening: 5 measures

Data and Methodology

- MA APCD v5.0 commercial claims data for 2.36 million commercial members with 1+ year of continuous enrollment between Oct 1, 2013 and Sept 30, 2015*

- Estimates were created to be conservative:
  - Only included measures that can be accurately captured in claims data
  - Excluded from consideration all claims for members with any diagnosis for which a particular measure *may* be of value
  - Counted only direct costs associated with a particular measure
    - Only count the cost of the specific procedure/test and not the entire visit/encounter or any follow-on costs
  - Count only the first instance of a low value screening

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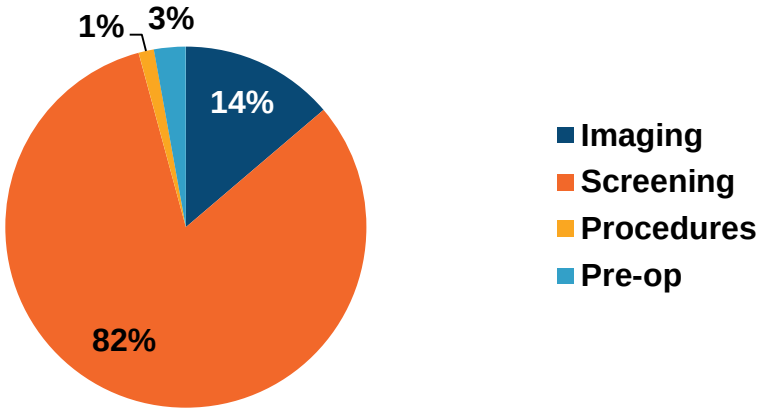
Note: RCT chose to look at this time frame because much of the existing literature is based on ICD-9 diagnoses and several measures required a “look-back” period.

Low Value Care in the Commonwealth

Among the 3 major commercial health plans in the Commonwealth:

- **537,930** of 2.36 million Commercial members (23%) experienced at least one episode of low value care in a 2-year time period
  - This means almost **1** in **4** members of these commercial plans have experienced at least one instance of low value care
- All low value care procedures accounted for **$79.4 million ($13.4 million out of pocket)** in health care spending in the 2-year period between 2013-2015*

Total LVC encounters for 19 measures, Commercial APCD 2013-2015



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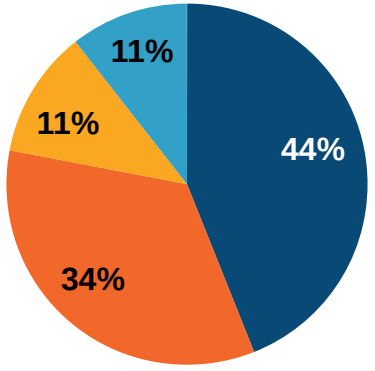

Note: RCT chose to look at this time frame because much of the literature is based on ICD-9 diagnoses and several measures required a "look-back" period.
*For thorax and abdomen CT with and without contrast, only the marginal cost of the procedure was counted that was in excess of either with or without contrast

A large number of members are receiving low value screenings

- Although most screening tests are not high cost, there are many individuals being screened:
  - Unnecessary screening can often lead to false positives and follow-on costs and procedures
- 329,000 members had a low value screening for vitamin D ($47 per test)
- 197,000 had a low value screening for homocysteine ($32 per test)
- 13.6% of the eligible population had a low value HPV screening

Low Value Care Screening, Commercial APCD 2013-2015

Measure	Numerator (persons)	Denominator (persons)	Rate(per 100 persons)	Total spending	Patient cost sharing
Vitamin D testing	328,827	1,917,422	17.1	$15,551,079	$2,964,962
Homocysteine screening	197,590	2,151,507	9.2	$6,266,124	$1,253,968
Screening for carotid artery disease	10,910	1,538,944	0.7	$3,539,766	$505,903
PAP smears, 13-21	17,047	168,440	10.1	$851,612	$23,973
HPV screening, women under 30	13,920	102,361	13.6	$608,072	$49,165

*Note: If a person had multiple encounters, we counted only the first encounter as low-value. Additional encounters were assumed to be for monitoring purposes.
APCD Commercial Claims data for 3 major payers, 2013-2015

Low value imaging has a high cost

- As reflected in the May Data Points, “Variation in Imaging Spending”, Massachusetts spends more than the national average on imaging
- Part of this spending is low value care
  - $35.2 million was spent 2013-2015 on 7 low value care imaging procedures*
  - These patients paid a total of $7.2 million out-of-pocket for these procedures.

Low Value Care Imaging, Commercial APCD 2013-2015

Measure	Low value encounters	Denominator encounters	Encounter rate	Total spending	Patient cost sharing
Back imaging for nonspecific low back pain	44,974	778,456	5.5%	$15,867,346	$3,668,908
Head imaging for headache	14,792	266,643	5.3%	$10,148,895	$1,926,428
Imaging for syncope	9,819	73,283	11.8%	$4,343,888	$506,342
CT for Sinusitis	5,595	367,764	1.5%	$2,298,151	$587,270
Imaging for Plantar Fasciitis	13,302	106,999	11.1%	$696,350	$392,370
Abdomen CT with and without contrast*	5,814	117,378	5.0%	$610,470	$29,070
EEG for headache	436	483,824	0.1%	$181,339	$31,620
Neuroimaging for febrile seizure	71	2,163	3.2%	$58,876	$4,192
Thorax CT with and without contrast*	648	80,977	0.8%	$20,088	$15,876

Notes: APCD Commercial Claims data for 3 major payers, 2013-2015).

*The low value care of this measure is that it is not necessary to repeat imaging both with & without contrast (rather, clinical decisions can be made with one imaging result). In order to account for the cost of this procure, abdomen & thorax CT are estimates based on marginal cost of the procedure (eg, with contrast only as opposed to both with and without contrast

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Low value procedures and pre-operative tests can be especially costly and invasive

- Average spending on a pre-operative cardiac stress test was $526 per test, including $47 of patient cost sharing
- Over $9 million was spent on about 9,500 low value procedures
  - Arthroscopic surgery average spending: $2,091
  - IVC filters average spending: $1,081
  - Spinal injections average spending: $386

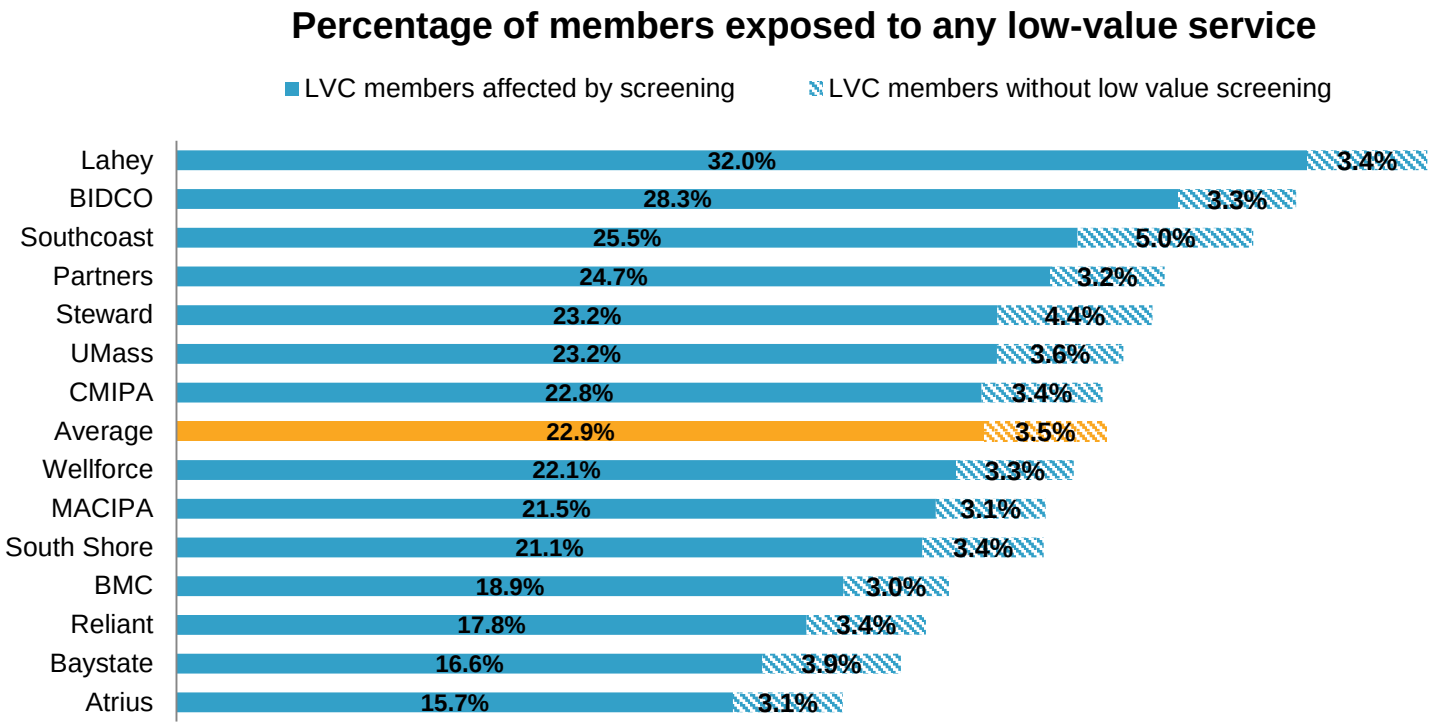
Low Value Care Procedure & Pre-Operative Testing, Commercial APCD 2013-2015

Measure	Type	Low value encounters	Total spending	Patient cost sharing
Pre-op cardiac stress testing	Pre-op	8,436	$7,171,582	$640,872
Spinal injections for low back pain	Procedure	8,332	$5,706,073	$490,978
Arthroscopic surgery for knee osteoarthritis	Procedure	821	$2,818,977	$153,890
Pre-operative PFT	Pre-op	11,272	$1,141,528	$127,262
IVC filters	Procedure	394	$483,200	$8,856

Note: APCD Commercial Claims data for 3 major payers, 2013-2015

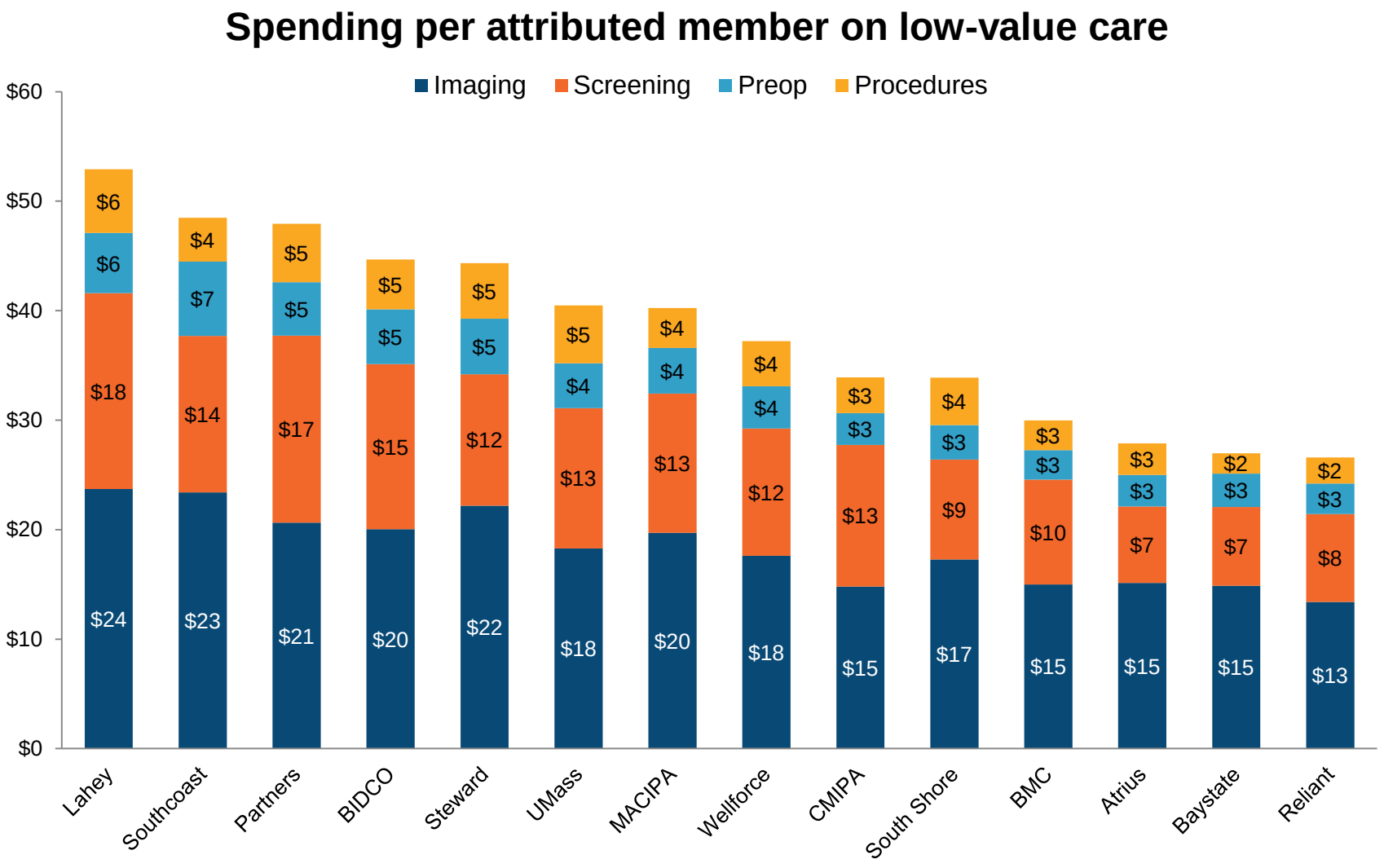
Variation in rates of low value care by provider organization are driven primarily by low value screening

- 1.6 million members were attributed to one of the top 14 largest provider organizations based on their primary care provider
- Members experiencing at least one low value care service by attributed provider organization varies from 18.8% (Atrius) to 35.4% (Lahey)
- If low value screening is excluded, exposure to low value care ranges from 3.0% (BMC) to 5.0% (Southcoast)



Note: Applied HPC provider attribution methodology to assign patients to a provider organization. A total of 1.6 million members were attributed to 1 of the 14 top provider organizations. Please see CTR 2017 for more information on this methodology.

Total spending on low value care per attributed member ranges from $27 at Reliant to $53 at Lahey



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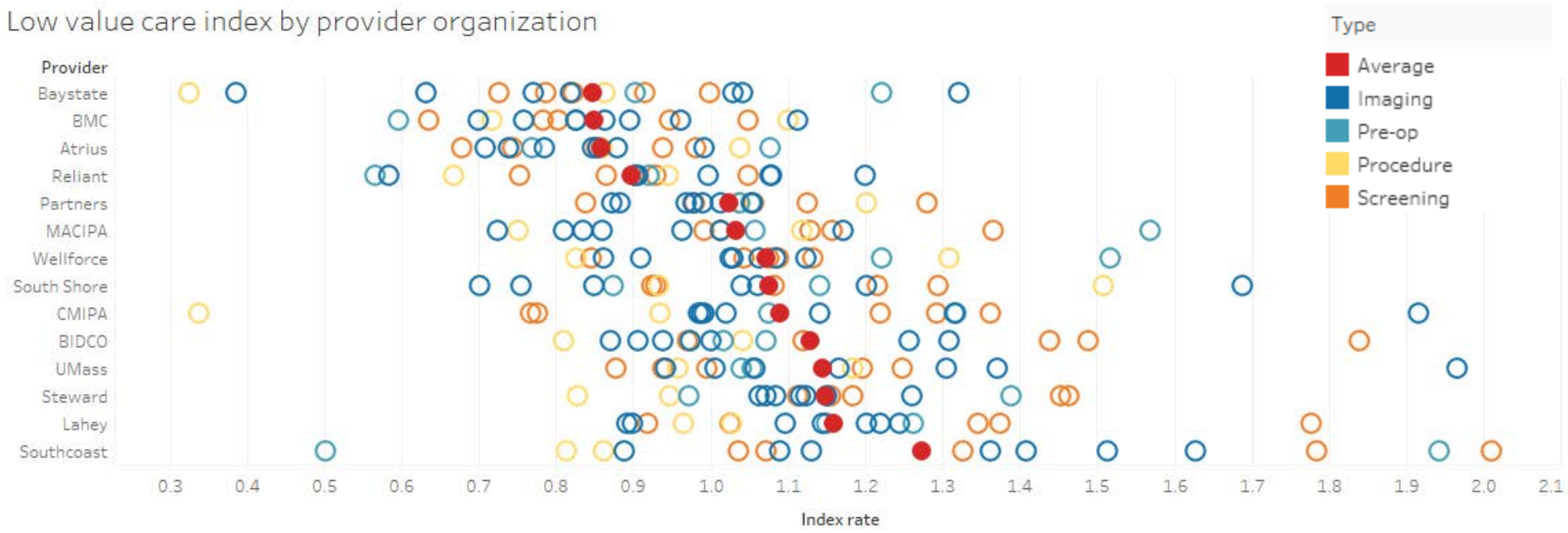
Across all measures, four organizations had overall rates significantly below the state-wide average

Each measure expressed as a rate relative to statewide rate set to 1.0



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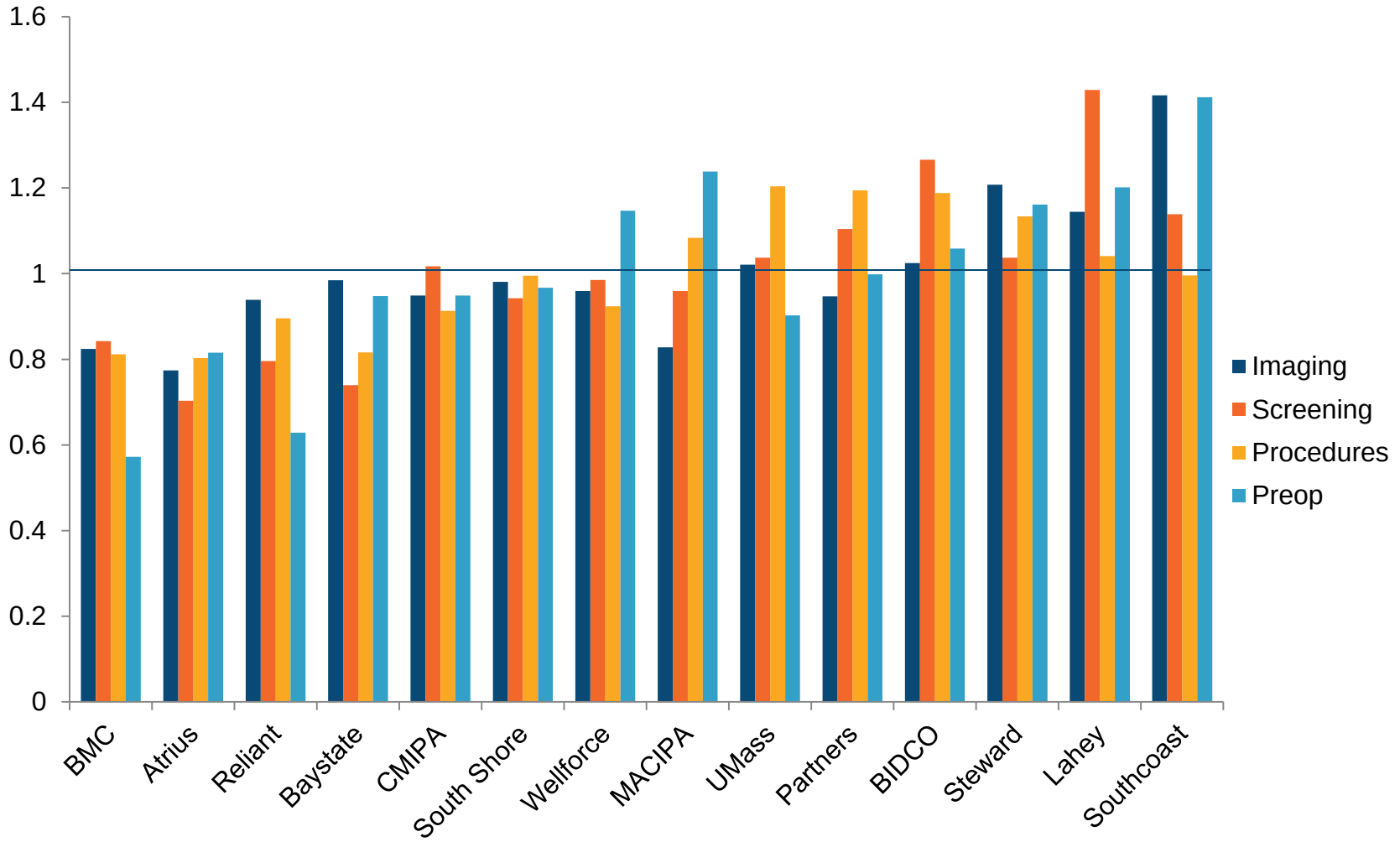
Variation by provider organization is greater in some categories

Composite rate for each service category for each provider organization relative to Statewide average (1.0)



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2018 Meetings and Contact Information

Board Meetings

Wednesday, July 18, 2018
Wednesday, September 12, 2018
Thursday, December 13, 2018

Committee Meetings

Wednesday, June 13, 2018
Wednesday, October 3, 2018
Wednesday, November 28, 2018

Contact Us

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Special Events

Monday and Tuesday, October 15 and 16, 2018: Cost Trends Hearing